

What is claimed is:

1. A method for treating a microbial infection comprising the steps of preparing a therapeutically effective amount of an anticholinergic quaternary amine compound and administering said anticholinergic quaternary amine compound to an area of a human body exhibiting said microbial infection.
2. The method according to claim 1, wherein the administration step comprises contacting a microbe residing on or within the infected area with said anticholinergic quaternary amine compound.
3. The method according to claim 2, further comprising administration of the anticholinergic quaternary amine (ACQA) compound as a formulation in conjunction with a non-ACQA anti-microbial agent having a recommended concentration defining an effective therapeutic dose, wherein the recommended concentration of the non-ACQA anti-microbial agent is substantially reduced without reduction in effective therapeutic effect.
4. The method according to claim 2, further comprising administration of the anticholinergic quaternary amine (ACQA) compound as a formulation in conjunction with a non physiologically active base or support material, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.0001% to about 20% w/w.

5. The method according to claim 4, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.001% to about 10% w/w.

6. The method according to claim 5, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.001% to about 5% w/w.

7. The method according to claim 2, wherein the anticholinergic quaternary amine compound comprises glycopyrrolate, mepenzolate or ipratropium.

8. The method according to claim 3, wherein the non-ACQA anti-microbial agent comprises an imidazole or triazole compound, triclosan, triclocarbon, farnesol, an aluminum or zirconium salt or complex thereof, antiseptics, essential oils or other naturally or synthetically derived antimicrobial materials.

9. The method according to claim 4, wherein the non physiologically active base or support material includes additional components having non-fungicidal activities, the additional components selected from the group consisting of keratolytics, wound healing agents, antioxidants, anti-inflammatories, antihistamines, antiperspirants, anti-bacterials, moisturizers, astringents, soothing agents, lubricants, UV-protectants, depilatories, skin or hair conditioners, and hair growth retardants or enhancers.

10. The method according to claim 1, wherein the administration step includes topical application of the anticholinergic quaternary amine compound as a

preparation selected from the group consisting of patches, films, sticks, gels, aerosols, non-aerosols, sprays, creams, ointments, lotions, mousses, powders, soft solids, and roll-ons.

11. The method according to claim 1, wherein the administration step includes systemic application of the anticholinergic quaternary amine compound as a preparation selected from the group consisting of tablets, caplets, capsules, syrups, suspensions, films, emulsions, intravenous drips, injections, mucoadhesives, and ophthalmic drops.

12. The method according to claim 2, wherein the anticholinergic quaternary amine compound is charged at a physiological pH to minimize systemic absorption of the anticholinergic quaternary amine compound when localized treatment is desired.

13. The method according to claim 12, wherein therapeutic effect is demonstrated by inhibiting growth of a fungal or bacterial organism responsible for the infection.

14. The method according to claim 12, wherein therapeutic effect is demonstrated by killing a bacterial organism responsible for the infection.

15. An antimicrobial composition comprising:  
  
an excipient material suitable for topical or systemic administration; and  
  
a quaternary amine compound having anticholinergic activity.

16. The antimicrobial composition according to claim 15, wherein the concentration of the anticholinergic quaternary amine compound in the composition is in an amount of from about 0.0001% to about 20% w/w.

17. The antimicrobial composition according to claim 16, wherein the concentration of the anticholinergic quaternary amine compound in the composition is in an amount of from about 0.001% to about 10% w/w.

18. The antimicrobial composition according to claim 17, wherein the concentration of the anticholinergic quaternary amine compound in the composition is in an amount of from about 0.001% to about 5% w/w.

19. The antimicrobial composition according to claim 16, further comprising:  
a non-ACQA antimicrobial agent having a recommended concentration defining an effective therapeutic dose; and

wherein the recommended concentration of the non-ACQA agent is substantially reduced without reduction in effective therapeutic effect.

20. The antimicrobial composition according to claim 16, wherein the anticholinergic quaternary amine compound comprises glycopyrrolate, mepenzolate or ipratropium.

21. The antimicrobial composition according to claim 19, wherein the non-ACQA agent comprises an imidazole or triazole compound or XXXX( see above) .

22. The antimicrobial composition according to claim 15, the excipient comprising a material selected from the group consisting of...see above list keratolytics, wound healing agents, antioxidants, anti-inflammatories, antihistamines, antiperspirants, anti-bacterials, moisturizers, lubricants, UV-protectants, depilatories, skin or hair conditioners, and hair growth retardants or enhancers.

23. A method for inhibiting non-pathological body malodor comprising the steps of preparing a therapeutically effective amount of an anticholinergic quaternary amine compound and administering said anticholinergic quaternary amine compound to an area of a human body so as to act on bacteria resident on said area.

24. The method according to claim 23, wherein the administration step comprises topical application so as to contact a bacteria residing on or within the desired area with said anticholinergic quaternary amine compound.

25. The method according to claim 23, wherein the administration step further includes penetration of the skin with the anticholinergic quaternary amine compound, thereby blocking the result of sympathetic cholinergic nerve fiber releasing acetylcholine to an innervated sweat gland.

26. The method according to claim 24, further comprising administration of the anticholinergic quaternary amine (ACQA) compound as a formulation in conjunction with a non physiologically active base, support or excipient material, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.0001% to about 20% w/w.

27. The method according to claim 26, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.001% to about 10% w/w.

28. The method according to claim 27, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.001% to about 5% w/w.

29. The method according to claim 24, wherein the anticholinergic quaternary amine compound comprises glycopyrrolate.

30. The method according to claim 25, wherein the anticholinergic quaternary amine compound is a charged species at physiological pH so as to minimize systemic absorption.

31. The method according to claim 26, wherein the non physiologically active base, support or excipient material includes additional components selected from the group consisting of keratolytics, wound healing agents, antioxidants, anti-inflammatories, antihistamines, antiperspirants, anti-bacterials, moisturizers, lubricants, UV-protectants, depilatories, skin or hair conditioners, and hair growth retardants or enhancers.

32. The method according to claim 23, wherein the administration step includes topical application of the anticholinergic quaternary amine compound as a preparation selected from the group consisting of patches, sticks, gels, aerosols, non-

aerosols, sprays, creams, ointments, lotions, mousses, powders, soft solids, and roll-ons.

33. The method according to claim 30, wherein minimized systemic absorption promotes delayed penetration until the occurrence of local perspiration.

34. The method according to claim 24, further comprising:

providing a metal salt antiperspirant;

combining the anticholinergic quaternary amine compound with the metal salt antiperspirant; and

administering the combination to a desired area of the human body.

35. The method according to claim 34, wherein therapeutic effect is demonstrated by inhibiting growth of a bacterial microorganism responsible for the malodor.

36. The method according to claim 34, wherein therapeutic effect is demonstrated by killing a bacterial microorganism responsible for the malodor.

37. An antibacterial composition for inhibiting non-pathological body malodor comprising:

an excipient material suitable for administration of the composition to a desired area on or within the body; and

a quaternary amine compound having anticholinergic activity.

38. The antibacterial composition according to claim 37, wherein the concentration of the anticholinergic quaternary amine compound in the composition is in an amount of from about 0.0001% to about 20% w/w.

39. The antibacterial composition according to claim 38, wherein the concentration of the anticholinergic quaternary amine compound in the composition is in an amount of from about 0.001% to about 10% w/w.

40. The antibacterial composition according to claim 39, wherein the concentration of the anticholinergic quaternary amine compound in the composition is in an amount of from about 0.001% to about 5% w/w.

41. The antibacterial composition according to claim 40, wherein the concentration of the anticholinergic quaternary amine compound in the composition is in an amount of from about 0.05% to about 5% w/w.

42. The antibacterial composition according to claim 38, wherein the anticholinergic quaternary amine compound comprises glycopyrrolate.

43. The antibacterial composition according to claim 38 further comprising a metal salt antiperspirant in combination with the anticholinergic quaternary amine compound.



44. The antibacterial composition according to claim 38, the excipient comprising a material selected from the group consisting of keratolytics, wound healing agents, antioxidants, anti-inflammatories, antihistamines, antiperspirants, antibacterials, moisturizers, lubricants, UV-protectants, depilatories, skin or hair conditioners, and hair growth retardants or enhancers.

45. A method for killing or inhibiting the growth of microorganisms responsible for fungal infection and non-pathological body malodor comprising the steps of preparing a therapeutically effective amount of an anticholinergic quaternary amine compound and administering said anticholinergic quaternary amine compound to an area of a human body so as to counteract the effects of said microorganisms resident on or within said area.

46. The method according to claim 45, further comprising administration of the anticholinergic quaternary amine (ACQA) compound as a formulation in conjunction with an excipient, base or support material, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.0001% to about 20% w/w.

47. The method according to claim 46, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.001% to about 10% w/w.

48. The method according to claim 47, wherein the concentration of the anticholinergic quaternary amine compound in the formulation is in an amount of from about 0.05% to about 5% w/w.

49. The method according to claim 46, wherein the anticholinergic quaternary amine compound comprises glycopyrrolate.